The Veterinary Record.

(Founded by William Hunting, F.R.C.V.S., 1888.)

No. 47. NOVEMBER 23, 1929. Vol. 9.

COMMUNICATION.

Aspects of the Spleen.

By F. T. Harvey, F.R.C.V.S., St. Columb.

The spleen has been for long, and probably still is to some extent, a mystery organ (a physiological enigma—F. Smith) but much knowledge regarding it has accrued in recent years, particularly owing to the work of Professor Joseph Barcroft[1] and his co-workers at Cambridge. It was known to the ancients that the spleen may be removed from an animal without any obvious change taking place in the body and also that disease or disordered action of the organ produced serious results.

Various phenomena, mental and otherwise, have been attributed to the spleen in all ages. Burton[2] alludes to "stopped spleen" and speaks of all sorts of humours being purged from the spleen, and even to-day we may sometimes hear of someone having "vented his spleen" on a fellow worm. It is curious that down the centuries it should have been regarded as a storehouse of evil, of melancholy, or of rage, and that in our own day it should be described as a storehouse of unwanted corpuscles, or erythrocytes, thus continuing the storage tradition but with a different outlook.

Formerly included amongst the ductless glands (Foster, Kirke) it has been removed from this high estate and at present occupies, physiologically, a sort of no-man's land. Its pathology goes back to Hippocrates, and who knows but that a splenectomised race-horse may one day be seen running at Epsom. Professor A. W. Sheen[3] says:—"The case records of Hippocrates contain examples of enlargement of the spleen. In one work of the collection it is said 'those persons whose spleen is large have their bodies meagre,' which gave rise to Trajan's comparison that the Imperial Treasury was like the spleen because when that was rich the people were impoverished. Suggestions in Pliny and the Talmud that the spleen was removed in men and in horses to increase their speed find confirmation in the recent work of Macht and Finesilver, who, experimenting on rats trained to walk on a tight rope, found their speed was increased after splenectomy."

Dead and Living Spleens.

Steel gives the weight of the equine spleen as being about two lbs. Sisson states that "The weight of the spleen in the horse is extremely variable, appearing to range ordinarily from about one to eight lbs.: the latter figure may be exceeded without any apparent evidence of disease. Length, twenty inches, and greatest width, eight to ten inches. The parietal and lateral surface of the organ is convex and lies chiefly against the diaphragm, but is in contact with the dorsal parts of the last two ribs and usually to some extent with the flank at the lumbo-costal angle. It is uncommon to find the spleen extending more than two or three inches behind the last rib; on the other hand, the posterior basal angle may lie just at the last rib. The position of the ventral part of the spleen depends upon two factors, fulness of the stomach and size of the organ. When the stomach is empty and the spleen small, the latter is curved and the ventral end may be between the left lobe of the liver and the left dorsal part of the great colon. When the stomach is full it pushes the spleen backwards, affecting most the ventral part. The spleen is affected by respiratory movements, as may be readily observed by examination *per rectum*." As regards the latter statement I have never been able to detect any movement of the spleen as occurring during normal respiration, but in March, 1925, I saw a horse with spasm of the diaphragm, and on examination of the animal *per rectum* and placing my fingers on the spleen I found the latter doing a sort of war-dance and jumping at the rate of 90 per minute in company with the movements of the diaphragm.

It appears that in all animals there are two spleens to be considered, the physiological (living) spleen and the *post-mortem* or dead spleen. The weight given in text books on anatomy bears no relationship to the weight of the organ during the life of the animal. Thus the living spleen of the cat may be four times the size of the abdominal or *post-mortem* spleen, or about one per cent. of its weight. The organ empties itself during the death agony and also during exercise or work.[1] Of all animals the horse furnishes, clinically, by far the most interesting spleen, since here we have the only instance in which the organ may be palpated by way of the lower bowel.

According to Barcroft[1] "The spleen is not a ductless gland but a definite part of the vascular system, having a function entirely in conformity with its muscular structure, being in fact a reservoir of corpuscles at once fitted by its reticulum to detain them and by its musculature to expel them when required to do so. In fact a place where red corpuscles, if not wanted for transport purposes, may be parked till some emergency arises which demands an increased number of vehicles of oxygen transport." Storage of corpuscles is but one of the possible functions of the spleen, but is the one which is of most interest in the present review and of considerable clinical importance.

It is certain that there is in the horse a similar marked variation of volume in the case of the living or physiological spleen as has been described by Barcroft as occurring in the cat. I have palpated the spleen of particular horses three or four times within a day or two and have found the organ varying considerably in its size and relations, but many factors, of course, come into operation, such as fulness of stomach, etc. "Under resting conditions the splenic pulp is practically cut off from the general blood stream and circulation through the pulp is extremely slow. Oxygen lack from any cause, causes the spleen to diminish in volume and contract. The red blood corpuscles contained in the pulp are consequently discharged and made

available for the general purposes of the body. It would appear that about one quarter of the total red cells of the body may be stored in the spleen and only become available in time of stress."[4] Samson Wright.

Experiments go to show that much of the blood passing through the splenic artery under resting conditions is short-circuited and passes almost directly into the splenic vein—a possible explanation why physiologists have not found, usually, any material difference in the blood of the splenic vein and the general circulation. It would thus appear that in bodily activity the spleen enjoys a complete circulation, while during periods of rest it is more or less short-circuited and the store house function obtains. The opening of the store-house door is functional and thus the drowning cat, the struggling rabbit and the trotting horse, empty their spleens. Formerly certain rhythmical movements were described as continually occurring in the spleen (*vide ante*) but such movement would interfere with its parking function and they either do not take place during normal circumstances of rest, or if they do, the change in volume is so small as to trench only on the volume of the blood in the vessels. There is no ebb and flow of corpuscles between circulation and the spleen pulp. Two events are of very great importance in reducing the size of the spleen, or in other words inducing it to unload, *viz.*, hæmorrhage and exercise. There is some evidence that corpuscles held up for long in the spleen, or in a back-water, pay the usual penalty of idleness and tend to become more fragile than circulating corpuscles, and are thus more readily destroyed on again entering the general circulation —a circumstance which may have some bearing on the pathology of azoturia in the horse.

The above short summary has been given of the more recent investigations on the spleen as necessary in order the better to appreciate the remarkable variations in the volume of the organ as occurring in various conditions apart from actual disease.

Palpating the Spleen.

It is very interesting to note the views of various writers and practitioners regarding the feasibility or otherwise of palpating the spleen of the horse during life. Professor Robertson[5] did not appear to have thought the feeling of the spleen to be practicable. He says: "There are no symptoms sufficiently diagnostic by which we may satisfy ourselves of disease of the spleen during life." Wallis Hoare[6] says: "In the horse the enlarged organ can sometimes be detected by rectal examination but that, according to Williams, this is only possible when the enlargement is extreme." "An examination per rectum may reveal the presence of an enlarged spleen."—Hutyra and Marek. It was stated some years ago, at a Meeting of the Central Veterinary Society, that the spleen could not be felt *per rectum* unless the horse was placed on his back, and at the same meeting the late Mr. F. W. Wragg stated that he was unable to feel the spleen *per rectum*. There is no doubt that it is a popular belief that neither the normal nor abnormal spleen may be palpated with the hand in the rectum. Whatever difficulties may occur in palpating the normal spleen of the horse there should rarely be any encountered when the organ is diseased and enlarged as not infrequently seen *post-mortem*.

For many years I have made it a practice to endeavour to feel the spleen when making rectal examinations in the horse and some interesting and useful information has been obtained in this way. I well remember the first occasion on which the spleen was stumbled across, long years ago, in what was probably a case of irregular strangles. There was an enormous swelling in the lower neck region, engorged jugulars and dyspnœa. A rectal examination revealed a large organ, obviously the spleen, in the left flank region extending to the pelvic inlet. A hopeless prognosis was given but in a few days an abscess pointed at the breast and the swellings cleared. The animal reached thirty-three years of age. He was a well-bred cob with a very short back and very little ingesta in the bowels at the time, thus it was an ideal case in which to feel the spleen. Of course when one speaks of palpating the spleen it is not the whole organ one handles but the posterior margin, which is sufficient for practical purposes in the majority of cases.

Palpating the organ, like most things, has to be done in a methodical way and a long and small arm is an advantage. To begin with, choose a medium-sized horse with short loins (well coupled) and quarters not too long and with the intestines not overloaded with fæcal matter. Carry the right hand forward on the left side until the last rib is reached and then manipulate the fingers about the upper part of the middle third and presently one should have the posterior margin of the spleen between the thumb and fore finger, or the fingers may have passed between the organ and abdominal wall. If unsuccessful, try another horse and yet another and the manœuvre will become quite easy. The spleen can be palpated in about 80 per cent. of horses. Sometimes it reaches almost to the pelvic inlet and on other occasions it occupies an almost vertical position in the middle of the left half of the abdominal cavity—"floating spleen." In the latter case a fair proportion of the organ may be manipulated. The mere size of the spleen, as already pointed out, within limits, does not appear to be of as great practical importance as are structural alterations. Thus in the case of a horse with a history of wasting, stiffness and of groaning or grunting on turning in the stall I was able within fifteen minutes of first seeing the animal to discover a nodular condition of the spleen. It was a case of tuberculosis. The organ was not greatly enlarged, since it weighed but four pounds at the *post-mortem* three weeks later. In a case of impaction of the large colon the latter organ was lying along the left side, so the spleen could not be felt, but some eighteen hours later, when the impaction had cleared, it was found to be quite large and just below the anterior spinous process of the ilium.

In the *Veterinary Journal* a few years ago Mr. Rochett described a case of tuberculosis in a mare in which the spleen was found at the *post-mortem* to weigh 84 pounds. The case is chiefly of interest as being another example of non-recognition clinically, or during life, of a markedly-enlarged spleen.

The record weight for spleens, 131 pounds, appears to be that recorded in the *Veterinary Journal* for September, 1882, by Mr. W. Woods, of Wigan. The nature of the disease is not given and the animal was ill but a few hours with symptoms of internal hæmorrhage. In the

Journal of Comparative Pathology and Therapeutics, vols. 1-9, there are recorded twenty-seven cases of tuberculosis in the horse by different observers. In practically all of them the spleen was either markedly enlarged or stated to show nodular, tumour-like formations. The actual weights, when given, vary from 1 lb. 14 ozs. to 42 lbs. In none of the above cases is any enlargement or abnormality of the spleen mentioned as having been noted during life and I have found no instance of such in the literature. Indeed, singularly few articles even mention the organ and there is only one in the *Journal of Comparative Pathology and Therapeutics*, vol. 28, by F. Chambers, Umtata, S. Africa, dealing entirely with enlarged spleen and that in relation to East Coast fever. The discovery of tumour-like formations in the spleen of the horse is strongly suggestive of tuberculosis: "The well-known predilection of the spleen for lesions of tubercle in the horse"—Mettam. Other conditions, however, may sometimes cause great enlargement of the spleen, such as malignant new growths.

NEW GROWTHS IN THE SPLEEN.

A mare after the weaning of her foal was found unfit for work and to be losing weight. The clinical examination was largely negative. The posterior portion of the spleen was palpated and found normal. The mare was not seen again for eight weeks, when a marked thickening or bulging of the left abdominal wall over the spleen area was evident. A rectal examination showed the spleen to be greatly enlarged, hard to the touch and fixed. She was greatly emaciated. At the *post-mortem* the spleen was very large and adherent to the abdominal wall, the latter being greatly thickened and invaded by new growth. About four-fifths of the spleen was invaded by the new growth, the remaining fifth being normal in appearance and consistence. Sir John M'Fadyean examined sections and pronounced the growth to be a round-celled sarcoma.

In the *Journal of Comparative Pathology and Therapeutics*, vol. 28, a case of lympho-sarcoma involving the spleen is recorded by Mettam and Lenox-Cunningham. The organ weighed 43 lbs. Here again a portion of the spleen was unaltered. Penberthy recorded in the same journal (vol. 15) a case of generalised carcinoma in a horse in which the spleen weighed 13¾ lbs. In this case also the posterior portion of the organ was unaltered in appearance. The above three cases are of interest in view of the extreme rarity of new growths in the spleen, and in all of them the posterior part of the organ was unaltered. Such growths appear to start at the base or hilum and gradually extend and destroy the organ, while in tuberculosis there is a more general infiltration. Muir[7] thinks that tumour cells have great difficulty in obtaining a hold on splenic tissue. In my case the spleen appeared normal at the first examination, but later it was found to be enlarged as the new growth extended.

The consideration of some other aspects or conditions relating to the spleen must be held over to a later date.

REFERENCES.

[1]Recent Knowledge of the Spleen. Professor Joseph Barcroft, F.R.S. *Lancet*, Feb., 1925 and March 13th, 1926.

[2]The Anatomy of Melancholy.

(*Continued at foot of next column.*)

The Establishment and Maintenance of a Tubercle-free Herd and the Production of Graded Milk.*

By H. W. STEELE-BODGER, M.R.C.V.S., Tamworth.

Most papers to which it has been my pleasure or pain to listen have commenced either with an apology or an explanation, or both; I am going to be no exception to that rule. In the first place I have to apologise because, in spite of ample warning from your Hon. Secretary, I have come unprepared—but my excuse is a good one. Last week I decided to go to Scotland for a few days, and I arranged for my notes for this meeting to be sent to me at Stirling. To my dismay when I got to Stirling yesterday mid-day I found that the wrong notes had been sent. As my only hope of getting these notes in time was to get on to Tamworth, I continued my journey instead of staying at Boroughbridge and I arrived at Tamworth at 2 a.m., having motored from Pitlochry, a distance of 454 miles! That was bad enough, but imagine my dismay when I found on arriving at Tamworth that the error had been perceived and the correct notes had been sent on to me at Stirling—so that I still have no notes. I, therefore, crave your indulgence.

There are several ways of establishing a tubercle-free herd—some rapid and expensive, others slow and inexpensive, and between the extremes are methods which appeal to the average intelligent farmer who is progressive but short of capital.

One can of course start by founding a new herd by purchasing only those animals which have passed one or more tuberculin tests.

Again, if one has at present a herd untested it is essential that, in the first place, the herd must be tested.

The results will vary between wide limits—the percentage of reactors may be anything up to 100 per cent.—and this percentage is not uncommon in herds of dairy cows. The percentage varies usually with the methods of cowkeeping. If a farmer has a self-contained herd, *i.e.*, a herd which is maintained entirely from home-bred stock, his percentage of reactors will usually fall into one extreme or the other; he will usually either have a very free herd or else a very heavily infected one. In the course of several years testing my freest herds have been self-contained, but not a few of my 100 per cent. reacting herds have also been self-contained.

The ideal is, of course, to have a self-contained herd but to be sure that the foundation of that herd is tubercle-free to start with.

(*Continued from previous column.*)

[3]Some Aspects of the Surgery of the Spleen. Hunterian Oration. *Lancet*, March 9th, 1929.

[4]Applied Physiology. Samson Wright.

[5]Practice of Equine Medicine. W. Robertson.

[6]System of Veterinary Medicine. Wallis Hoare.

[7]Text Book of Pathology. Muir.

[8]*Journal of Comparative Pathology and Therapeutics.* Various Volumes.

*Address presented to the Lincolnshire and District Division, N.V.M.A., at Lincoln, on 17th October, 1929.

A farmer who has to rely on bought cattle to maintain his milk contracts—and that is quite a common rule on small farms where sufficient acreage cannot be reserved for rearing young stock—should always purchase heifers if he wishes to keep a free herd. The farmer who keeps his herd at full strength by buying 3rd, 4th and 5th calving cows is asking for trouble in more ways than one and he is certain to have a high percentage of reactors.

In establishing a tubercle-free herd happy is the man who has two farms—his problem is solved for him—but the majority are not so fortunate. Many farmers, however, have two or more sheds so that the reactors can be isolated from the non-reactors. If only one shed is available the cattle should be so arranged that the sewage drains away from the free cows. If possible, even in a single shed a double standing should be left between reactors and non-reactors; anything is better than nothing and no little thing, however small, to effect isolation and separation should be omitted. The essential thing is to separate, somehow, anyhow, immediately the test has been carried out; the importance of this is vital and fundamental—any procrastination is fatal, infection may be so insidious and unexpected.

The method of eliminating the reactors will, of course, depend upon the percentage. If a man has a large herd and only a few animals react, then the wisest and most economical procedure would be to sell those reactors at once in order to free his herd.

If 25 per cent. or more react then they must be isolated and sold when they come to profit either as down calvers, newly calved, or fat.

If the percentage of reactors is very high then the only hope of economically establishing a T.T. herd is to take one's time and build up from the calves, which should be isolated at birth and fed on the milk from heifers or from a tubercle-free cow, bought and isolated for that purpose.

Soon I hope we shall be in a position to recommend as of proved value the vaccination of calves with B.C.G. vaccine; when the efficacy of this is definitely proved, doubtless the Ministry of Health will accept certificates of cows which have been vaccinated each year from newly-born calves. The trouble at present is that a vaccinated animal reacts to the tuberculin test in virtue of its vaccination; what is required is a test to differentiate between a reaction due to tuberculosis and one due to vaccination.

It should be clearly understood that because an animal passes the test to-day there is no guarantee that it will do so indefinitely, even if it is removed at once from all apparent sources of infection.

Frequent testings are at first necessary, in order to eliminate those which react after the unfortunately indefinite period of incubation. I would suggest that after the first test those which pass should be tested again in three months' time. Assuming then that after several re-tests one has got a free herd, vigilance must not be relaxed, on the contrary, it must be redoubled. Believe me, the difficulty of obtaining a tubercle-free herd is as nothing compared to the difficulties of keeping it free. Again, nothing is more disappointing to one's clients or to oneself or more damaging to one's reputation than for a supposedly free herd to reveal a number of reactors at a subsequent test. On this account it is, therefore, of the very utmost importance to choose carefully one's clients before advising the establishment of a T.T. herd. One must be certain beforehand that instructions given will be rigidly adhered to and carried out to the letter.

It is important to remember that apparently the freer a herd is the more susceptible it is to re-infection and no detail, however small, must be omitted to guard against a re-infection.

Any animals bought must be tested before they are brought on to the farm and they must be kept in isolation for a period of at least two or three months and then re-tested before they are introduced into the herd. If the herd, as a whole, has passed the test three times I should not allow any animal to be introduced that had not been in isolation for six months and had not passed the test at the time of purchase, at three months and six months' intervals. Even then it is infinitely better and safer to avoid buying, if possible by rearing one's own stock. The advice of Dr. Stenhouse Williams on this subject is "Avoid buying as if it were the devil."

The Grading of Milk.

Much more could be said on this subject, but time will not permit and we must proceed to discuss the grading of milk.

The following are the grades of milk permissible under the Milk (Special Designations) Order, 1923:—

(1) Certified milk in which the milk must be produced from cows which have passed the tuberculin test; the milk must be cooled and bottled on the farm; it must not contain more than 30,000 bacteria per c.c. and no coliform organisms in $\frac{1}{10}$ c.c. The milk must not at any time be treated by heat. The animals must be re-tested every six months. The licence is issued by the Ministry of Health. The day of production must be on the cap.

(2) Grade A (T.T.) milk, in which the milk must be produced from cows which have passed the tuberculin test; the milk must be cooled and may be bottled on or off the farm; it must not contain more than 200,000 bacteria per c.c., and no coliform organisms in $\frac{1}{100}$ c.c. The milk must not at any time be treated by heat. The animals must be re-tested every six months. The licence is issued by the Ministry of Health and the day of production must be on the cap.

(3) Grade A milk, in which the milk must be produced from cows which have not, to the knowledge of the owner of the herd, at any time been tested with tuberculin and reacted to the test. Milk must be cooled and may be bottled on or off the farm; it must not contain more than 200,000 bacteria per c.c., and no coliform organisms in $\frac{1}{100}$ c.c. The milk must not in any way be treated by heat. The animals must be clinically examined every three months. The licence is issued by local authority.

(4) Grade A Pasteurised has regulations as for Grade A production. Milk must be heated to a temperature of 145° to 150° and retained there for 30 minutes, and then cooled to at least 55°F. It may only be pasteurised once. It must not contain more than

30,000 bacteria per c.c. and no coliform organisms in $\frac{1}{10}$ c.c. Day of production must be on the cap.

(5) Pasteurised milk may be produced under any conditions. It must be dealt with as for Grade A Pasteurised and must not contain more than 100,000 bacteria per c.c. before it is delivered to the consumer. The day of production need not be on the cap.

The Order leaves quite a lot to be desired and the nomenclature is deplorable; to the average layman Certified and Grade A (T.T.) are indistinguishable and Grade A is the supreme grade. The words of Sir George Newman, the Chief Medical Officer of the Ministry of Health, are interesting in this connection. Speaking in reply to some observations of my own at the World's Dairy Congress last year, he said: "Will you let me say one word on the question of grading. There is no one in this Congress who finds the present designations more unhappy, uncomfortable, inconvenient and confusing than myself. If a united opinion can be sent up by this Congress to the Ministry of Health I will guarantee that it is laid before the Minister of Health. I am not guided, and cannot be guided in any advice I give to a Minister merely by my own opinion or by my own judgment. Government cannot lead in that sense; it is the duty of Government to follow in that sense; and we await, and I await, with pleasure any unanimous opinion as to the re-arrangement of these designations. I have from the first welcomed the grading certificate and the designation of milk, and 25 years ago I wrote and printed, so that you can check my words, the exact recommendations with regard to certification which are now in practice, both in America and in England. I welcome it more than anyone else in the room. We at Whitehall would welcome a simplification, 1, 2, 3 or A. B. C; if you think that that is going to meet the man who says that he will provide a specialised milk."

I sincerely and earnestly hope that ere long milk from tuberculin tested herds will be grouped under one Grade and I would suggest that the bacterial standard for Certified Grade A (T.T.) and Grade A should be 30,000 bacteria per c.c. and no coli in $\frac{1}{10}$ c.c.

I would insist that other milk offered to the public should contain not more than 100,000 bacteria per c.c. and no coli in $\frac{1}{100}$ c.c.

In my opinion pasteurisation is unnecessary and is a direct incentive to slovenliness in the production of milk.

If all milk was purchased on a quality basis, *i.e.*, for low bacterial count, absence of coli and percentage of butter fat; and if all cows were subjected to periodic veterinary examinations and the milk subjected to the biological test every three months, there would be absolutely no excuse for pasteurisation and its attendant evils.

In my opinion Grade A (T.T.) milk bottled at convenient central premises has a better chance of being clean and keeping sweet for long periods than has the average certified milk bottled on the farm.

My reason for that statement is this; with the exception of the very wealthy, it is not an economic proposition to instal a brine cooler on a farm, and milk cooled by brine has a very much longer life than milk not so cooled. Again, at central premises unlimited steam is usually available for cleansing of bottles, etc. Again, supposing a producer has several farms, it is much more satisfactory to have one central bottling and sterilising plant than one at each farm. Adequate cooling is most essential; if a sample of ordinarily clean milk were divided into three—one sample cooled to 50°, one to 60°, and one to 65°, the keeping qualities would probably be 7, 3, and $1\frac{1}{2}$ days respectively.

There are three immediate alterations I would like to see in the Milk (Special Designations) Order:—

(1) That as the producer pays the veterinary fees in all three grades he should have the right in Grade A, as he has in Certified and Grade A (T.T.), to employ his own veterinary surgeons. I have at present 35 clients producing Grade A milk whose herds are being examined by other veterinary surgeons in their capacity as inspectors of local authorities. This was obviously never intended by the Ministry of Health, and is manifestly unfair.

(2) That the words "form part of or," occurring in line 3, paragraph (1), sub-section A, part 3 of the Milk (Special Designations) Order, 1923, should be deleted forthwith, as their inclusion constitutes a real hardship to intending producers of Grade A (T.T.) milk; and is a direct deterrent to the establishment of tubercle-free herds, and the production of milk of the highest grade.

The position is this: If a man holds a licence for the production of Grade A milk, and he wishes to produce A (T.T.) milk, his first step is to have his herd tested. He may get anything up to 100 per cent. reactors. Obviously he cannot afford to remove a large number of reactors forthwith and is therefore unable to proceed with Grade A (T.T.).

But now, having reactors in his herd, he automatically forfeits his Grade A licence. No sane man, therefore, who has held a Grade A licence for any length of time would jeopardise that licence on the off chance of getting a good percentage of passes and so securing a licence for Grade A (T.T.).

Moreover, is a herd any worse to-day because it has 100 per cent. reactors than it was yesterday with a 100 per cent. unknown reactors? Of course it is not! On the contrary, if a herd of 100 per cent. reactors is licenced there is some means of controlling it; the cows are subjected to quarterly veterinary examination and the milk is sampled regularly, at least once a month. There is no such control over an unlicenced herd.

Again, if a man has 25 per cent. reactors he can isolate and in the course of 12 months or so eliminate. But why should he be penalised because he is enterprising?

(3) That the words "and the day of production," occurring in line 6, para. (2), sub-section B, part 3, of the Milk (Special Designations) Order, 1923, should be deleted as they serve no useful purpose, the quality of the milk being controlled by the bacterial count, and the absence of coliform organisms.

The inclusion of these words reacts unfairly on the enterprising producer and distributor of graded milks as compared with the producer and distributor of ungraded milk which is not similarly restricted. Here is a concrete example. To-day is Monday. I have one bottle bearing

to-day's label with a bacterial count of 100,000 per c.c. I have another bottle bearing Saturday's label with a bacterial count of 20,000; other things being equal, the Saturday's milk is the better; but not one housewife in a hundred would accept the milk with the Saturday's label. That is an extreme example, but the fact remains that the laity will *not* buy milk with the previous day's label.

I believe the majority of graded milk producers evade the law by bottling night's milk with the following morning's label. But, I submit, the ungraded producer who bottles his milk without any day of production on the label has a great advantage over the graded producer, although the milk of the former may be bacteriologically filthy.

One other example. The Midland Counties' Dairy, Ltd., Birmingham, buy well over a 1,000 gallons a day of graded milk; all this milk is paid for on a quality basis, and is of a very good keeping quality. Much of this milk arrives at the dairy too late for that day's distribution, and consequently bears the previous day's label when it is distributed; but as some of the milk is night's milk it must bear the label two days old when distributed; this condemns it untried.

Discussion.

The President (Mr. J. H. Poles): I am sure that we are all very much indebted to Mr. Steele-Bodger for his very interesting and extremely instructive paper. (Hear, hear.) It is indeed good of him to come here and address us, under the difficulties to which he has referred, more particularly because we are all more or less dependent upon the farming industry, and there is no doubt that his paper will produce a good discussion. A good many of you are very much connected with the different dairies, and I will now call upon one of you to open the discussion.

Mr. Charles Hartley: I should like to ask the essayist if, in carrying out the intradermal tuberculin test, he relies, in its interpretation, more upon the measurements or more upon the character of the swelling; also, if in his view it is absolutely essential to clip.

Mr. Steele-Bodger: The first, in particular, is an interesting question, and my reply is this: That it is necessary to measure, because it is so much more convenient to record one's interpretation in terms of mathematics than by descriptions of the swellings. These are the calipers (produced) which I use and they are very simple. I do not rely entirely upon measurement, however; in fact, I rely less upon measurement than upon the actual character of the swelling. For instance, I might have two animals, which both started at seven millimetres, going to nine millimentres at the second injection and to twelve at the third, and yet one of these animals I might reject and the other I would, without hesitation, pass. It is a power of interpretation which one acquires only with experience. That interpretation does depend, to a certain extent, upon the presence of pain in the swelling, but pain is the least of the three factors, of which the other two are heat and character. I say that pain is the least important factor because animals of a shy breed, such as the Ayrshires, will present the appearance of suffering acute pain when, in point of fact, there is little or no pain. I would rather test a hundred Shorthorns than ten Ayrshires, and I would do them more rapidly than twenty-five Ayrshires. As to the clipping it is not essential, but usually I do it. I never shave the site of injection: I think that is contra-indicated. For one thing it would cost one, like myself, who does a great number, a small fortune in razor blades, and for another, it is impossible to shave, without abrasion, the dirty matted skins of young cows lying out at the back-end time. In the winter, however, I invariably clip, so that I hall have a better indication of the site of injection.

Mr. Hartley: I would like to ask about the great difficulty many farmers have, in connection with the production of clean milk, with the water supply. Can clean milk be produced on a farm which has a poor water supply? There is a great prejudice in a certain type of small town against "cold milk"; in such, "cold milk" is almost synonymous with "old milk."

Mr. Steele-Bodger: You can produce clean milk, but you cannot keep it clean without cooling it. If milk has to go from the farm to the town to be delivered and consumed there, you cannot expect it, even if it is produced clean, to remain sweet for a long space of time. But in any town where this clean milk movement gets started, other dairymen are soon forced to sit up and take notice and to do something or other, if it is only to paint their carts. In Tamworth we are selling about 14,000 pint bottles a week, and we have only 9,000 inhabitants. Whereas five years ago there was not a medical man in the town who knew the meaning of graded milk, let alone the different grades. Now, however, the demand for tested milk actually exceeds the supply.

Mr. Porter-Smith: Could the essayist tell me something about the bacterial count?

Mr. Steele-Bodger: The bacterial count for Grade A (T.T.) milk is a maximum of 200,000 bacteria per cubic centimetre, and no *Bacillus coli* in one-tenth c.c. The count for certified milk is a maximum of 30,000 and no *B. coli* in one-tenth c.c. The lowest count I have known is ten bacteria per c.c., and not infrequently I have known milks of 110-120. Personally, however, I would sooner drink milk with 50,000 bacteria per c.c. and an absence of *B. coli* in one c.c., than I would milk with only 100 bacteria and the presence of *B. coli*. Unless the milk count was consistently bad, a man's licence would not be rescinded for exceeding the maximum—if, say, it happened four times a year only; but if weekly samples were taken and it happened three times in a fortnight, then they would rescind, and rightly so. I prefer Grade A (T.T.) to Certified, because it is more often brine cooled and is usually bottled at central premises, where there is unlimited steam available.

A Member: Are milking machines used in your dairies?

The Essayist: Yes, one of my clients has four farms and in three of them milking machines are used. Curiously enough, the farm which does not use them won the Warwickshire Clean Milk Competition. (Laughter.) I cannot understand that, because I know that the people who look after the machines on the other three farms are extraordinarily careful and very thorough in their methods.

A Member: Have you ever been told about the effect on quantity of milking by machine, as compared with the yield from hand milking?

Mr. Steele-Bodger: I do not think that, if the pulsator of the machine is in good working order and you have the necessary action, there is any difference. You must strip, of course.

A Member: I know of some who have discontinued the use of the machines during the last four years because of the falling off: that was in Cumberland.

The Essayist: I would suggest that it was something rather to do with the running of the plant.

Mr. Porter-Smith: Do you believe in using vaseline—that is, petroleum jelly?

The Essayist: No, why should it be used?

Mr. Porter-Smith: One reason is that it is supposed to keep off mastitis.

Mr. Steele-Bodger: As regards washing udders, I think there is a good deal in that, but if they are washed the job should be done thoroughly—a slightly-damped cloth will merely lay the dust, so to speak. I certainly advise clipping, but a tremendous lot depends on the length of the standing and the depth and width of the gutter. The objection to the short standings that many dairy farmers put up lies not so much in the length of the standings themselves as in the width of the manger: you must give the cow room somewhere or other. You want a 3ft. manger, and if the cow has that, a 5ft. standing will do for her, even though she be the biggest type of animal.

Another thing is the hay rack ; that will keep the animals back, so that the standings will need to be somewhat longer when they are present. I do not think, however, that hay racks are necessary.

Mr. HARTLEY : No one ever seems to have thought of varying the lengths of the standings in a shed to accommodate animals of different sizes. That, to me, seems a most remarkable omission. In a twenty-cow range you could make at least a one foot over-all variation.

Mr. STEELE-BODGER : I should not vary it so much, but I should to some extent. It has not been adopted, I think, in some cases, on the ground of detrimental appearance, but this can be overcome by varying the width of the gutter in the opposite direction—the result being a straight line.

The PRESIDENT : I should like to ask you, first of all, whether you employ the ophthalmic test at the same time as you use the double intradermal, which you have now adopted in preference to the subcutaneous tuberculin test.

The ESSAYIST : I used to employ the ophthalmic, but I do not do so now, not only because it is the least reliable test, but because it is by far the most extravagant over tuberculin. I have not tried the subpalpebral, but I shall when I get the opportunity.

The PRESIDENT : If the bull reacted to the test, you would not necessarily turn him out of the herd ? Talking about clinical symptoms in connection with the bull, could you find lesions of the testicle during a clinical examination ?

Mr. STEELE-BODGER : Yes, I have done. That is how I was enabled to make those remarks about the testicle ; but it is generally accepted that a bull will not transmit tuberculosis unless his reproductive organs are themselves affected. My reason for making the statement is that one requires something more of a bull than the fact that he has passed a test : constitution must count for a lot, and it is, in my opinion, more important that the bull should be a really first-class animal, *i.e.*, that he should have a good milking record on both sides, and be obviously a picture of health, than that he should just pass a test and have nothing else to be said for him.

The PRESIDENT : You also said that milking herds should be self-contained, but they must change the bull every so often.

The ESSAYIST : I meant that no milking stock is introduced into the herd. Unless your client is prepared for a considerable number of reactors he must have a self-contained herd. The only drawback to a self-contained herd is Johne's disease.

The PRESIDENT : You say you could not allow the fresh animals to come into contact with the others until they have been tested twice. Do you maintain that in regard to the bull ?

Mr. STEELE-BODGER : I have not done that, and I do not think it necessary, because the brief time that the bull is with the cow will not enable him to infect her, unless his testicles are infected.

Mr. PORTER-SMITH : Do you think it is essential, for the production of certified milk, that the water supply should be a good one ?

The ESSAYIST : I most certainly do : that has been our drawback this summer—the farmers have little water for other purposes, let alone cooling the milk.

In reply to further questions, Mr. STEELE-BODGER said : I look upon the pasteurisation of milk solely in the light of a necessary evil. The crime of the process, to my mind, is that it kills the acid organisms, so that you do not get rapid souring. There may thus be a cesspool in the milk jug after it has been neglected by the careless housewife and allowed to become contaminated. Raw milk does go sour and that souring is a great safeguard. It is true that many Co-operative Societies are pasteurising all their milk, but you must remember that engineering firms make a good thing out of Co-operative Societies, and it pays these firms better to put in an expensive pasteurisation plant than it does to instal a £200 cooling apparatus. Those societies are, of course, run by laymen who know nothing about the subject of clean milk. I certainly think it is a matter of education, and one which, as a profession, we should do a lot towards. It is important, also, to get the medical profession with us in this matter. I think it is fairly well proved that raw milk is better ; but, on the other hand, it needs to be good raw milk. I came across, in this connection, a good slogan in an American paper. There was a picture of a farmer sitting down to table with his family, and underneath was written : " Let every milk producer and distributor, as he sits down to table with his family, promise his God that he will never produce or sell a single drop of milk which will cause a vacant chair in somebody else's household."

Mr. LOCKWOOD : About this intradermal test, did I understand you to say that you inject under the armpit ?

The ESSAYIST: I sometimes do it just in front of the arm so that the reaction will not be obvious. The secret of success in intradermal testing is to have a short needle and a very light syringe—I use Dunn Bros. insulin syringe.

This terminated the discussion, for his part in which and for his paper, Mr. Steele-Bodger was heartily thanked, on behalf of the members, by the President.

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November 12th, 1929.

In the case of pigs, "when left to their own devices," says the Federal Department of Agriculture, "'eating like a pig' means eating with a nicely adjusted instinctive regulation of the diet for maximum growth and development."

Swine Fever: Advice to Owners of Infected Herds.

With reference to our Editorial in last weeks' issue, we are requested by the Ministry of Agriculture and Fisheries to call attention to the following note in their leaflet "Swine Fever: Advice to Owners of Infected Herds"* :—

"It should be clearly understood that the reporting of a suspected case of swine fever to the police does not in any way relieve the owner of his responsibility for the care and maintenance of his pigs, or the prevention, as far as practicable, of unnecessary suffering from illness or other cause. The owner is at liberty at any time, either before or after confirmation of the existence of the disease, to have his pigs treated on the infected place by his own veterinary surgeon, provided that the latter obtains the necessary permit from an Inspector of the Local Authority to enter the Infected Place and disinfects himself upon leaving the premises, in accordance with the Rules set forth on the Notice."

CLINICAL AND CASE REPORTS.

Traumatic Gastritis in Cattle and its Operative Treatment.

THE PRESENT CONDITION IN GERMANY.

By J. T. EDWARDS, M.R.C.V.S., Harrogate.

Traumatic reticulitis is of frequent occurrence, and is considered to be the most common cause of digestive disturbance in the ox; one expert puts the percentage as high as 90.

Pieces of wire, nails and similar metal objects are the commonest bodies to perforate the wall of the reticulum, setting up local peritonitis, followed by adhesion between reticulum and diaphragm; it is this process that causes pain and produces the syndrome.

Foreign bodies less than about 5 cms. long may become fixed in the walls of the reticular cells and cause no trouble. Those longer are more likely to penetrate the viscus wall and may, if not removed, lead to traumatic pericarditis. It has been found experimentally that solid and relatively heavy objects ingested reach the reticulum normally within 12—24 hours, and a traumatic pericarditis may arise a very few days after the swallowing of the offending object.

Symptoms.—1. Small or moderate tympany; hollow of flank filled in.

2. Rumination arrested; appetite variable.
3. Defæcation delayed.
4. Slight colic, kicks at abdomen.
5. Back arched and movement avoided.
6. The head held in extension.

Pulse and temperature are sometimes affected, but not in every case, also milk yield in cows is diminished.

Diagnosis.—Local abdominal pain, as evidenced by grunting or groaning, is elicited by :—

1. Nipping and pressing the spine to cause dipping of the arched back.
2. Percussion in the Xiphoid region.

* *Ministry of Agriculture and Fisheries Form, No. A21/T.A*

3. Percussion over the line of insertion of the diaphragm on each side of the body.

It is advisable to have a man at the animal's head to listen for the groans.

A percussion hammer and plessimeter should be used. Any forced movement, such as making the animal rise, turn sharply, walk or trot may also cause groaning. There are numerous other diagnostic methods, some depending on the effects of certain drugs administered.

For general practice, however, the above numbered factors (collectively) are said to be diagnostic.

Prognosis.—Some cases "heal themselves" following a few days boarding up in front, starvation, etc. One can never say for certain whether or not this treatment will cure.

For early cases operated upon, prognosis is very good, and as the operations are comparatively simple, there is good chance of success even in later cases in which the peritonitis has become severe, as the exciting cause is removed for certain. The co-existence of late pregnancy naturally acts adversely. Advantages of early operation are—less danger to life before the peritonitis becomes more acute or widespread; removal of the possibility of traumatic pericarditis (as yet incurable ?)—(Distance between reticulum and pericardium is only 2—4 cms.); the foreign body, once removed, cannot cause a recurrence of the traumatism.

Treatment.—Obich[1] in 1863, was the first to perform an operation for this condition—Rumenotomy through the left flank.

Hofmann[4] has recently re-introduced it and recommends it warmly. He operates close up against the last rib, but as Goetze[5] points out, this method is only suitable for long-armed operators and small or medium-sized animals. Here, also the seat of trauma is only reachable from inside the rumen. Kuebitz[2] in 1922, introduced a new operation —lapatoromy immediately behind the Xiphoid cartilage and removal by hand of the foreign body protruding through the wall of the reticulum. This he applied to cases that did not respond to three or four days non-operative treatment.

This method was later simplified and improved by Leue[3], who has used it with great success during the last few years. As such, it is rapidly and easily performed, is quite applicable in country practice and, in many cases, does not call for even a second visit by the practitioner.

Leue always operates at once on obtaining a positive diagnosis. In this method the seat of trauma is only reachable from outside the viscus. Therefore, in the minority of cases in which the foreign body cannot be withdrawn through the wall, a further rumenotomy is necessary.

This Kübitz-Leue operation is a single-handed job, whilst skilled assistance is required in the other methods.

The Kübitz-Leue Operation.

The animal is cast and placed in the dorsal position with the fore pair and the hind pair of legs drawn apart by ropes held by two men (one each end), straw bundles being used as props for the body.

Anæsthesia.—Kübitz used chloral, Leue uses none at all.

Instruments.—Scalpel; spring forceps; shaving tackle; needle and suture material for skin; 1—4 handkerchiefs; and some lard; scissors.

Procedure.—The operation field area, some 6 by 4 inches, situated medially over the Xiphoid cartilage and over an equal area immediately caudal to it, is shaved and disinfected, and the operator, kneeling at the animal's right side (or left side if he is left-handed) makes a 4 inch long incision through skin, subcutis and muscle down to the Xiphoid cartilage, whose posterior border should be at its midpoint; then, the white fibrous sheet that forms a caudal prolongation of the cartilage is divided medially. (N.B.—this must not be mistaken for peritoneum). The peritoneum lies about half an inch more deeply, only separated from the former by very loose connective tissue. It is taken up with forceps and snipped open by scissors. The operator now pushes his left hand through into the abdomen, the back of it facing the diaphragm. Just inside the incision lies the abomasum. The hand is pushed further inwards and forwards and the reticulum is reached. It is only marked off from the abomasum by a very shallow groove, and feels somewhat firmer. In an actual case, there is adhesion between reticulum and diaphragm; this is carefully broken down till the foreign body is felt protruding through the wall, and it is gently grasped and, if possible, drawn out.

One handkerchief, or more, should there be some hæmorrhage, is well rubbed with lard, inserted between the injured surfaces with its one knotted corner protruding from the posterior extremity of the skin wound, whose anterior two-thirds is sutured (simple interrupted 4-6).

The animal is now allowed to rise and is taken to a cleanly bedded stall. Complete starvation for two or three days follows, after which the handkerchief is carefully drawn out. Feeding is begun gradually, avoiding all heavy and bulky stuff at first.

The wound heals completely in 6—10 weeks.

In favourable cases, the whole operation is all over in 15 minutes.

Professor Goetze, Hanover, has formulated another operation like that of Kübitz, with the difference that a long (20 cms.) incision is made a hand's breadth to the left of the mid line after a preliminary endoscopic examination, and through this large opening the reticulum can be easily approached and, if necessary, be drawn to the wound surface and opened (Reticulotomy). So, by this method, the seat of trauma can be reached both from in and outside the viscus, as in Kübitz's second method. (*vide infra.*)

Suturing by layers completes this operation and a gauze drain is used for the first two or three days.

A narcotic, general and/or local anæsthetic is indicated here.

The Second Operation of Kübitz.

This is carried out on the standing animal and is therefore indicated for pregnant cows, which should not be cast. The beast is secured at the head (neck chain) and its right side pressed against a wall.

Anæthesia.—Local. Injection of *e.g.*, 3 per cent. Novocain over the course of the tenth, eleventh and twelfth intercostal nerves a little below the level of the lumbar transverse processes. The needle is inserted at a spot at the cranial border of ribs 11, 12 and 13 and directed

forwards against the posterior borders of the ribs 10, 11 and 12.

A large upright rectangular area, its base just below the costo-chondral articulations, some 10 by 6 inches of area, is shaved or depiled (paste containing strontium sulph.) and disinfected.

A vertical incision 6—8 inches long is made directly over the terminal (lower) extremity of the eleventh rib, down to the bone. All muscle and other tissue is carefully severed from the outer surface and both borders of the distal 6 inches of the rib and then the peritoneum is pushed away from the inner surface of it, care being used not to injure the membrane.

The prepared portion of rib is now removed; proximally by means of a short length of wire saw, and distally at the articulation by a knife. The intact peritoneum is now incised vertically and through the opening so made the operator's right arm is inserted, directed downwards and forwards, palm of hand against abdominal wall, and on reaching the reticular region, is pronated and the surface of the organ palpated for penetrating foreign body, which may or may not be directly removable.

If not, then a rumenotomy must be performed and the foreign body secured from inside. Suturing is done in four layers—rumen; peritoneum; muscle; skin.

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Schistosomiasis in South African Sheep.

F. G. CAWSTON, M.D., Cantab.

Amongst the examples of *Physopsis africana* Krauss which Doctor E. E. Warren of the Natal Museum examined for me in 1915 were a large number from the Umsindusi river which were infested, not only with the human schistosomes, but with an unidentified parasite which appeared to represent the larval stage of some schistosome of bird or beast, which I termed *Cercaria secobii*.

When investigating the possibility of contracting Bilharzia infection around the military camps at Potchefstroom and Roberts' Heights in the Transvaal in 1916 and 1917, I discovered the Bilharzia parasite of some animal, which I termed *Cercaria gladii*, infesting *Bulinus tropica* (Krauss) from the Mooi river at Potchefstroom and the Sterkspruit at Klerksdorp.

There are several distinct schistosomes known to attack animals, and it is probable that these cercariæ represent their larval forms.

Schistosoma bovis, which is readily diagnosed by its spindle-shaped ova, was first discovered in South Africa in some guinea-pigs I had submitted to infection with cercariæ obtained from *Physopsis africana* in the Durban suburbs, under the Streatfeild Research Trust. The adults were reared from what is believed to be identical with *Cercaria octadena* Faust, which infests *Physopsis africana* from the Umbilo river at Pinetown and elsewhere in the Union.

Schistosomiasis had not been recognised as a natural infection of South African sheep or cattle until three years ago when an Italian scientist, attached to the Veterinary Department at Pretoria, was able to recognise it as a cause of the mortality and general ill-condition of the sheep watered from the Zeekoe river of the Humansdorp district of the Cape Provine, not far from Jeffrey's Bay. In view of this outbreak, Mr. P. L. Le Roux, M.R.C.V.S., visited the locality and, although it was impossible to trace the source of the infection (which, however, is known as a common disease in Sardinian sheep), he obtained examples of *Physopsis* from the river and, as a result of his recommendations to keep the sheep away from the river and water them from bore holes and vleis, the outbreak has been adequately placed under control.

Further investigations will surely reveal other infested districts and Mr. Le Roux tells me he has determined the disease also in the Pretoria district. It is possible that the monkey may be an occasional host, as in other countries.

The adult worms are confined to the portal system. The passage of visible blood from animals would seldom be an indication of schistosome infestation, though traces have been recorded from some of the South African infected sheep. Though the passing of blood in the urine is one of the surest indications of Bilharzia disease in man, amongst animals the ova would seem to escape mostly from the bowel, this producing dysenteric symptoms which may become severe and even fatal.

The infected sheep in the Humansdorp area were anæmic and ill-conditioned; they would be predisposed to illness and might even succumb from the effects of shearing. Treatment to be effective would be prolonged over a month.

On hearing of the presence of *schistosomiasis* in the Cape Province, I took the first available opportunity of visiting Port Elizabeth and taking a train to the infected district. One of the Humansdorp farmers kindly showed me his 600 sheep and readily picked out two rams which had been watered from the river which rises near Humansdorp and enters the sea not far from Jeffrey's Bay. Both rams were ill-conditioned and anæmic and, on killing one of them, we readily found numerous schistosomes in the mesenteric veins. The liver also showed signs of hepatitis. The schistosomes were preserved in spirit for further study.

I obtained several typical examples of *Physopsis africana* Krauss from the river. I had previously collected examples infested with *Schistosomum hæmatobium* Bilharz from the Baaken's river at Port Elizabeth; but the species has not been found south of this. I then visited a neighbouring farm where the losses amongst the sheep three years ago had been disastrous.

On this farm I obtained several examples of *Physopsis africana* Krauss as well as *Limnæa natalensis* Krauss, a common South African host for Fasciola infection.

The occurrence of the blue lotus lily as well as the broad rush in pools along the course of this river predisposes to schistosome infestation of the sheep and cattle. *Nymphæa stellata* and *Cyperus immensus* must be regarded as the favourite food for *Physopsis*, and every endeavour should be made to clear these plants of stagnant water from the neighbourhood. Careful search will soon reveal the eggs of *Physopsis* on the under surface of the smooth water-lily leaf of this common species.

Since watering the flocks away from the infected pools, the disease has been placed well under control and the lambs which are to be found there at all seasons of the year are in a flourishing condition.

As a dilution of less than 1 in 250,000 of copper sulphate is of little use in the control of *Physopsis*, and even this dilution is difficult to determine in a running river, domesticated duck might be more extensively used on these farms and the watering of sheep continued away from the infected water.

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Free Clinic for Poor People's Animals.

We have just received the Annual Report and Balance Sheet of the Animal Welfare Centre, Ipswich. This Centre is supported and maintained by the Ipswich Branch of the Council of Justice to Animals and Humane Slaughter Association.

The President is Mrs. Margaret Morgan, and the veterinary surgeons are Messrs. H. L. Roberts and H. J. Loveless.

The Welfare Centre opened for the free treatment of poor people's sick animals on 22nd August, 1928, an arrangement being made for urgent cases to be dealt with at the veterinary surgeon's own premises on the presentation of an indexed card issued by the superintendent of the Animal Welfare Centre.

The report states that a total of 370 animals were treated during the year, 164 being cats, and that this number is exclusive of destructions. After all expenses had been paid, including veterinary surgeons' fees, there remained in the bank a balance of approximately £25.

Here is an example of how a local organisation can fulfil a public want, work in harmony at small cost and, above all, provide professional men instead of "quacks" for the diagnosis and treatment of disease conditions.

The N.V.M.A. has always recognised the necessity for some such facilities where the animals of the very poor can be treated free of cost, but it has at the same time insisted that any operation upon or treatment of an animal shall be carried out by duly qualified veterinary surgeons.

The Association congratulates the Ipswich Animal Welfare Centre upon its successful year.

REVIEW.

"Journal of the Royal Army Veterinary Corps."

It seems strange that the Veterinary Service of an Army which has existed for 133 years should not before now have produced its own journal as other branches or departments of the Army have done. The reason for this no doubt may be ascribed to want of enterprise consequent on the lack of funds wherewith to promote and maintain it. However, Army Veterinary Service is now in the fortunate position of having a sponsor in the Corps Fund, at least for a commencement, and the *Journal* was launched at the beginning of the present month. The strong Committee of Management is to be congratulated on the first fruits of its labours, and particularly the Editor, on whom so much devolves for its success or otherwise. It is to be hoped that the venture, of such good promise in the beginning, will be maintained as long as the Corps itself exists. To effect this, as has been pointed out by the Editor in his introductory Editorial, income must balance expenditure of production, and an appeal is made for the support, financially, and by contributions of scientific literature from all who have had association with the Royal Army Veterinary Corps in the past, both during peace and in war, for after all it stands a journal for all the component parts of the Corps—regular, territorial, O.T.C. Contingents, the Old Comrades' Association, and the Army Veterinary Corps, India.

The Journal is very well displayed. The cover is of the maroon colour of the Corps, and the subject matter is nicely grouped into Editorial, Original Articles, Clinical Articles, Sport, Garrison News, Personal and other matters of general interest. It opens with a poem by Major H. E. A. L, Irwin, dedicated to those who left their normal avocations to serve with the Royal Army Veterinary Corps, 1914-19. Then, following an introductory Editorial, is an article entitled "In the Beginning," by Major-General Sir John Moore, dealing with the first 100 days of the Expeditionary Force in France, the second half of the article to appear in the next issue of the journal. An appreciative memoir (with photograph) is given of the late Major-General Sir Frederick Smith, and an article from his pen, which is probably the last of his contributions to veterinary literature before his death. Lieut.-Colonel P. J. Simpson contributes a very instructive and useful article on "The Supply of Horses for the Territorial Army Summer Camps." Original articles on scientific subjects are presented by Brigadier A. J. Williams on "The Treatment of Surra in Equines in India by Intravenous and Intrathecal Injections of Bayer 205," "The Susceptibility of Camels to Trypanosoma Pecaudi," by Major R. H. Knowles, late Sudan; "Phosphorus Poisoning in Sheep," by Captain W. Lyle Stewart, and Mr. Brynmor Thomas, Armstrong College, Newcastle-on-Tyne, having a bearing on Artillery Practice Camps. Clinical articles are provided by Major C. J. R. Lawrence, from Egypt, Major C. H. S. Townsend, from Gibraltar, Major P. Howard, Woolwich, Captain J. F. L. Taylor, India and Major H. J. Holness. The varied fields of service cannot fail to furnish most interesting clinical material which is always appreciated

(Continued at foot of first column next page.)

ADMINISTRATIVE REPORTS.

[**Colony and Protectorate of Kenya. Department of Agriculture Annual Report, 1928,** pp. 347, published by the Government Press at Nairobi at 5s.]

This report, as the title indicates, is compiled by the Director of Agriculture, Mr. Alex. Holm, C.B.E.

The report of the Chief Veterinary Officer, Lieut.-Col. A. G. Doherty, is included, in common with the reports of the Chief Veterinary Research Officer, the Agricultural Chemist, the Entomologist, the Mycologist, and others.

The Director of Agriculture, in his discussion of things veterinary, makes some original observations. For example, at the head of page 5 it is stated :—

" It may be noted that the proportion of the net appropriation spent upon the protection of the live-stock industry is high when compared with that spent upon all other services." This comment relates to the statistical table on page 4 which shows that in 1928 the net appropriation upon veterinary services was £53,477 out of a total agricultural expenditure of £96,457.

Again, on page 21, Mr. Holm states :—

" The cattle industry is not making the progress expected of it, and the results are disappointing, having regard to the efforts of breeders coupled with the protection from losses due to diseases afforded through an efficient veterinary service maintained at considerable cost. These protective measures, effected by regular dipping and many inoculations conferring immunity against diseases, are inevitably costly both to the owner and the State. Due to the low average productive capacity of the cattle found in the Colony both in respect of beef and milk production the returns to the owner are not encouraging."

Further, on page 29, under the heading " Native Agriculture," Mr. Holm observes :—

" Quite possibly in heavily-stocked areas we may have done quite the wrong thing by inoculating all live-stock to prevent loss and we might easily use inoculation as the means of saving the better class of stock by refusing to inoculate poorer types ; there, is, however, unfortunately something of injustice in such a policy, however useful it may be in correcting the evil."

The Veterinary Department of Kenya in 1928 comprised :—

Administrative and Executive.	
Chief Veterinary Officer	1
Deputy Chief Veterinary Officer	1
Senior Veterinary Officers	3
Veterinary Officers	13
Stock Inspectors	19
Temporary Stock Inspectors	9
Research.	
Chief Veterinary Research Officer	1
Assistant Chief Veterinary Research Officer	1
Laboratory Superintendant	1
Laboratory Assistants	8
Overseer	1
Yard Foreman	1
Clerks	4
Clerical Learner	1
Mechanic	1
Storekeeper	1
Assistant Storekeeper	1

The total expenditure on Veterinary Services during 1928 was £48,852. The revenue from Veterinary Services was £16,877, *i.e.*, a net expenditure, after deducting revenue, of £31,975. The actual facts, therefore, are not quite so bad as would appear from the " net appropriation of £53,477 " commented upon by Mr. Holm.

Rinderpest. During the year there were 156,481 double inoculations, 26,003 virulent blood tests, and 73 serum-alone inoculations, with a total mortality of 3,170. The first request for compulsory double inoculations against rinderpest was received from a District Committee, in response to which 50,000 cattle were inoculated in two months. Much research work was done on rinderpest including :—

(1) The breeding and rearing of cattle in isolation as virus-makers free from redwater, gall sickness, and other tick-borne diseases.

(2) The substitution of rinderpest blood kept at 0°C. for fresh virulent blood in order to obviate the need for supplying fresh virulent blood in the immediate neighbourhood of an outbreak.

(3) Inoculation of 24 and 36 hours-old blood kept at 0 C. and, 24 hours later, anti-serum.

(4) The substitution of nasal secretion of a rinderpest-reacting beast for virulent rinderpest-blood. This method eliminates the risk of transmission of tick-borne diseases, but " Precautions should be taken not to use nasal secretion collected during the later stage of the temperature-reaction."

East Coast Fever. The position with regard to East Coast fever " may be considered as generally satisfactory."

The Assistant Chief Veterinary Research Officer (Mr. R. Daubney) spent a part of his leave during 1928 at the Molteno Institute at Cambridge. He had taken with him from Kenya ticks infected with East Coast fever and other piroplasms. While at Cambridge he met and conferred with Professor R. A. Cooley, of Montana, U.S.A., whose chief work is in connection with tick parasitization. It has been established that there is in South Africa a small Hymenopterous fly whose eggs are deposited beneath the integument of the nymphal tick, the larvæ of the parasite ultimately devour the contents of the tick, which is thus destroyed. A similar tick parasite has been found in

(*Continued from previous page.*)

by the veterinary practitioner. Under the heading " My Best Horse," it is proposed to publish a series of articles on prominent horses owned by Officers of the Corps. The first relates to " Fillet," owned by Major S. O'Donel, the winner of the Army Corps at Lucknow last year, and trained by Lieut.-Colonel G. Conder, late of the R.A.V.C. The series ought to provide some very interesting records of horses.

Altogether the journal will fill the rôle of a record of service well done, of a useful medium for contributions to Veterinary Science, and in its social columns a bond of union between the past and the present generations of the Corps. In the concluding words of its first Editorial, " May Fate prosper it."

America. This opens up interesting possibilities which are being actively pursued.

Anthrax. A beginning was made with the use of a spore-vaccine to protect cattle against anthrax. The advantages of this vaccine are said to be that only one inoculation is necessary and that a more secure immunity is produced.

Contagious Abortion. The report says, concerning this disease, that: "Judging from the agglutination tests made during the year it would appear as if contagious abortion is a very widespread disease in this country. It is responsible for immense economic loss every year. Undoubtedly native cattle are heavily infected and are responsible for introducing the disease on to many farms."

Laikipia Lung Disease. This disease of sheep is said to be "spreading rapidly. . . . . Infection is carried by sheep with pulmonary lesions."

The disease is specific for sheep, but odd cases may be found in goats. Two varieties of bacteria at least are etiologically involved, *viz.*, the Laikipia organism and a small gram-positive diplococcus. A search for an effective vaccine is being made, but so far without complete success.

Plant Poisoning. There are three interesting pages on this topic. Much experimental reaearch work was done and many definite and original results were obtained.

Mr. Mettam's work on this subject was published in the *Veterinary Record* of November 10th, 1928.

Lieut.-Col. Doherty concludes his report with an extract from observations on stock development by Captain Mulligan, in which many sensible suggestions are made concerning that most important problem, the grading-up of quality in native-owned cattle. If substantial progress could be made in this matter, much of the sting would be taken out of the comment by the Director of Agriculture to the effect that the pastoral game in Kenya may not be fully worth the veterinary candle.

Captain Mulligan emphasises the familiar evils of native stock-breeding, *viz.*:—

(1) In-breeding to an extreme extent.
(2) Breeding from the sexually immature.
(3) Breeding from the physically unfit.

In those Colonies where Stock Improvement Ordinances can be carried into strict effect, it has been possible by compulsory castration of defective males to achieve something, but in Protectorates where progress is dependant solely upon enlightenment and good-will the difficulties of improving the quality of native-owned cattle have so far proved insuperable.

The extent to which the Veterinary Department in Kenya can fulfil the hopes of Captain Mulligan may be related to the measure of its future prestige in that Protectorate.

J. W. R.

[**Cyprus. Annual Report of the Veterinary Surgeon for the Year 1928,** pp. 8. Printed at the Govt. Printing Office, Nicosia, 1929.]

The staff comprised the Government Veterinary Surgeon (Mr. R. J. Roe, M.R.C.V.S., D.V.S.M.), four Stock Inspectors, a Compounder, a varying number of men temporarily employed as Vaccinators, and Quarantine Guards, also pupils in training for ultimate appointment as Dairy and Stock Inspectors. The Veterinary Service in Cyprus was expanded considerably during the year 1928 by the adoption of "A scheme for the reorganisation of the Service, extending over a period of five years. The scheme provides for the employment and training of five assistant stock inspectors and for the granting of increased funds for veterinary work in general and for the control of anthrax in particular. Two assistant stock inspectors were recruited locally as from 1st March, 1928, and the expenditure allotment was increased from £500 in 1927 to £1,000 in 1928. This increase in funds enabled the number of animals vaccinated against anthrax to be increased from 55,913 to 152,338."

Substantial and necessary additions were made to the accommodation of the Laboratory and the Veterinary Hospital. Indeed, it would seem from the enumeration of the additions, both in material and personnel, that the original arrangements were quite inadequate either for the purposes of research or for the modern surgical treatment of sick animals.

CENSUS. Complete figures are given for the years 1926, 1927, and 1928, in respect of horses, donkeys, mules, oxen, camels, sheep, goats and swine.

The aggregate total of all these domesticated animals has increased from 485,070 in 1926 to 645,525 in 1928. Increases are shewn for each class of animal, varying from about 14 per cent. in cattle to 290 per cent. in pigs. Even horses increased by 24 per cent.

Exports of live-stock declined, and it is stated that the exports are now much below the average that obtained before the War. A total of 3,383 animals valued at £38,912 was exported during 1928 as compared with exports valued at £50,688 in 1927 and £71,300 in 1926.

Owing to the prevalence of anthrax in Cyprus, the Egyptian Government, in May 1928, prohibited the importation of Cyprus cattle and pigs except for slaughter in quarantine. The veterinary surgeon of Cyprus, however, after an official visit to Egypt and full discussion of the matter with the Director of Veterinary Services in Egypt, was able to secure the concession that Cyprus cattle, pigs, and sheep, might be imported into Egypt subject to an observation period of eight days in Port Said and Alexandria and the provision of health certificates from Cyprus.

Thus there was removed what might have proved a further serious blow to the live-stock export trade of Cyprus. Concerning the future possibilities of this trade the Report states:—"The island is well adapted for stock raising on a more intensive scale, and, being free of many of the diseases which are rife in neighbouring countries, it is reasonable to suppose that the present export trade could be increased considerably by improved methods of breeding, feeding, and marketing."

The following extracts from the Report are of particular interest, indicating, as they do, an intelligent appreciation of the value of what may be termed veterinary missionary work.

The chief hope for veterinary progress to-day lies in this aspect of development:—

"During the year the members of the Veterinary Staff were actively engaged in extending their scope and utility, by getting into closer touch with stock owners throughout the island, and thereby endeavouring to reduce the amount of apathy and ignorance in regard to animal diseases which

still are prevalent and which will take many years to overcome. Increases of the staff made possible more frequent inspections of stock and additional opportunities for educating owners by means of lectures, demonstrations and explanations to individuals. The value of this work is reflected in the increased number of applications received during the year for advice and assistance, and in the fact that reports of the existence of disease in villages are now usually received from the owners of the affected stock, whereas in the past such reports were only received from owners in neighbouring villages or from the police."

"*Milk and Dairy Inspection.* Regulations concerning Milk and Dairies in Cyprus made in 1926 are based on those of England and Wales and bring the whole matter under the control of the veterinary surgeon. Progress is being made in the registration of cowkeepers, in improvement of buildings, and in the important business of inspection: a whole-time dairy inspector was to be appointed in 1929.

"*Specific Diseases.* These include anthrax, black-quarter gangrenous mastitis of ewes, parasitic gastro-enteritis of sheep and goats, and various poultry diseases which are to receive more particular attention in the future.

"Anthrax is the principal disease. During the year there were recorded 64 outbreaks with a mortality of 963 animals, but the incidence is believed to be considerably greater than these figures suggest. Vaccinations against the disease have increased from 800 in 1912 to 152,338 in 1928."

Concerning the future control of anthrax in Cyprus Mr. Roe remarks:—

"The negligence of owners in ensuring the proper burial of carcases is being gradually overcome by means of propaganda and by the more rigid enforcement of the Contagious Diseases of Animals Law. Until the provisions of this Law relating to the isolation of affected animals and the proper disposal of carcases are strictly applied anthrax much continue to be the cause of considerable economic loss annually. The value of the annual vaccination of stock is now acknowledged by most owners and, although the veterinary surgeon is empowered to enforce the inoculation of animals, it is seldom that such measures are necessary. The vaccinations are carried out entirely at Government expense, Pasteur single vaccine being used and a special staff of vaccinators being temporarily employed during the vaccinating season. The cost is approximately £4 15s. per thousand animals. Some four hundred doses of vaccine from the Onderstepoort Laboratory (South Africa) were also used with satisfactory results." [Was this the "spore-vaccine" referred to in the Kenya Government veterinary report? *Reviewer.*]

Tuberculosis of cattle, said to have been introduced from Great Britain in 1921 by animals imported for the Cyprus Government Farm, has now been eradicated by means of tuberculin.

It will be seen from the foregoing summary that veterinary matters in Cyprus are in a lively and progressive state and that much is being done to improve the public health so far as it relates to the domesticated animals.

Mr. Roe is to be warmly congratulated upon the extent to which he has been able to enlist the sympathy and the support of the Government of Cyprus in the business of reforming the arrangements for animal welfare and sanitation in the island. J. W. R.

DIVISIONAL REPORT.

Lincolnshire and District Division, N.V.M.A.

SUCCESSFUL MEETING AT LINCOLN.

Excellent fare, well suited to the practical taste and requirements of the members of this Division, was provided at a meeting, held at the Albion Hotel, Lincoln, on Thursday, October 17th, 1929, in the presentation by Mr. H. Steele-Bodger, M.R.C.V.S., of Tamworth, of a paper entitled "Problems Associated with the Establishment and Maintenance of a Tubercle-free Herd and the Production of Graded Milk." As was remarked by the President (Mr. J. H. Poles) in introducing Mr. Steele-Bodger, few of the members of that wide and mainly rural area of the Division are not intimately connected in a professional capacity with the great dairy farming industry, and certainly the essayist provided the comparatively small company who represented them with an immense amount of valuable material for discussion—material based on his practical experience of dealing with the problems presented. Unfortunately, the length of Mr. Bodger's discourse (for only a condensed version of which can space be found) though a most welcome and valued feature, limited the subsequent discussion. [Both paper and discussion appear earlier in this issue of the *Record*.—Ed.]

In addition to those already mentioned, there were present Mr. J. Caldwell, Major C. Hartley, Captain A. J. Hines, Messrs. W. W. Lang, G. Lockwood, J. H. Poles, E. Porter-Smith, R. Swaby, H. Walpole and H. C. Reeks (Hon. Secretary).

Apologies for absence were received from Major F. L. Gooch, Mr. W. W. Grasby, Mr. H. P. Standley and Major C. W. Townsend.

The *minutes* of the previous meeting of the Division, having received publication in the *Veterinary Record*, were taken as read and were confirmed and signed.

New Members.—Unanimous election as members of the Division was accorded Mr. James Hill, M.R.C.V.S., D.V.S.M., Long Sutton, and Mr. J. H. S. McKie, M.R.C.V.S., of Spilsby.

The PRESIDENT now called upon Mr. H. Steele-Bodger to give his paper, and in complying, the latter tended an apology for having to address the meeting without his prepared notes on that subject—they had been chasing each other round the country in a fruitless effort to catch one another up. The members followed Mr. Steele-Bodger's remarks with the keenest interest, and at their conclusion very heartily endorsed the President's proposal that a warm vote of thanks should be accorded to the essayist for his visit and discourse and for his replies to questions and participation in the discussion. "Mr. Steele-Bodger," said Mr. Poles, "has provided us with an intellectual treat and one that has done everyone of us good, and I am only sorry that we cannot extend the time to proceed still further with the consideration of the many important points he has put before us."

Mr. STEELE-BODGER, returning thanks, expressed his appreciation of the warm welcome which had been accorded him by the members of the Society. He would like to ask

the meeting to pass the two resolutions to which he had made reference in his paper, which were as follows:—

(1) "That the words 'form part of or,' occurring in line 3, paragraph (1), sub-section A, part 3 of the the Milk (Special Designations) Order, 1923, should be deleted forthwith."

(2) "That the words 'and the day of production,' occurring in line 6, paragraph (2), sub-section B, part 3, of the Milk (Special Designations) Order, 1923, should be deleted."

In connection with the first resolution—the allowing of no reactors to remain in a Grade A herd—the words "form part of or" were obviously out of place. The enactment was, in his opinion, a stupid one, because a herd could be no whit the worse by reason of the fact that the reacting animals were still present in it, while insistence on their removal would seriously interfere with the progress of the movement for the production of Grade A (T.T.) milk.

The second resolution concerned the date of production, but it surely did not matter at all whether the milk was one or two days' old: if the older milk had a bacterial count of only 20,000, it was better than this morning's milk if that had a bacterial count of 100,000 or more. It was a serious handicap to producers to market milk at a distance and be compelled to date it, for housewives had a deep-rooted prejudice against purchasing milk dated the previous day, but quality was governed by the bacterial content and by the keeping properties.

The PRESIDENT: You have heard what Mr. Steele-Bodger has had to say concerning these two resolutions. Will someone move?

The first resolution was passed, on the proposition of Mr. PORTER-SMITH, seconded by Mr. LANG. There was some opposition to the second, voiced by Mr. PORTER-SMITH, on the ground that to pass such a resolution would be to act in opposition to the progressive spirit which demanded cleaner and better milk. Consumers were, after all, glad to know which was the day of production and such knowledge was of some value. After some discussion, however, the resolution found favour with the majority of the members, who passed it, on the proposition of Mr. HINES, seconded by Mr. WALPOLE, Mr. Steele-Bodger having explained that more graded milk would be sold if it were not for this requirement. Consumers refused perfectly good milk which bore a label showing production on the previous day, but they did not hesitate to accept unlabelled milk which gave no indication of the date of production and with which there was no kind of quality guarantee.

ANY OTHER BUSINESS.

Proposed Alteration in Constitution of N.V.M.A. Council.—The SECRETARY informed the meeting that, although he had not with him the letter from the Secretary of the "National" dealing with the proposed alteration in the Constitution of the N.V.M.A. Council, he had been made aware that an expression of opinion on that matter from their Division was urgently needed by the Secretary of the parent body, in order that the complete return of replies could be placed before the N.V.M.A. Council for consideration.

The proposed alteration to Article 59 of the Articles of Association of the Association, permitting the addition of 25 members to Council by nomination and election from among the general body of members of the Association was then explained to the meeting.

After discussion, however, it was decided to forward the following resolution, which was approved by the meeting, after having been moved by the HON. SECRETARY and seconded by Mr. HARTLEY:—

"That the Lincolnshire and District Division approves of the proposed addition to the members of Council, N.V.M.A., but is of opinion that such addition should be made by constituting whoever may be officiating as the President of each Division as an *ex-officio* member of Council, in addition to the Hon. Secretary of the Division."

The meeting concluded with the passing of a hearty vote of thanks to the President for his conduct in the Chair, and subsequently all who could stay enjoyed the President's hospitality at tea.

HARRY C. REEKS, *Hon. Secretary.*

Striking Support for the Horse.

SUPERIORITY OVER PETROL TRACTION FOR REFUSE COLLECTION.

At a recent meeting of Accrington Town Council, Councillor Woolley argued that the Corporation was proceeding along wrong lines in developing its petrol vehicles for the collection of domestic refuse at the expense of horse-drawn carts; and he gave detailed figures to support his contention that horses were cheaper for many purposes.

He stated that the cost of collection by horses worked out at 5s. 2·1d. a ton against 7s. 1·4d. a ton by petrol vehicles. Accentuating this was the fact that the horses were engaged on traders' light refuse, which consisted of paper and packages chiefly, where there was a great bulk but little weight. Wages were not included in the charges, and he suggested that if they were kept account of separately the higher cost of collection by petrol vehicle would be more manifest. He had taken a survey over twelve months, and the average cost of collection by motor was 5s. 10½d. against 5s. by horse, even allowing for the fact that the horses were taking a much smaller average load than they could take.

On wages too, there was a saving, because two men, both working, could go with a horse which would move forward on a word of command, whereas four men were employed on a petrol waggon, one of whom, the driver, took no share in the work, and merely drove the vehicle.

Alderman Barlow (chairman of the Stables Committee), supported Mr. Woolley's case. He referred to the item of depreciation on expensive motor equipment, and said that depreciation alone on one waggon recently acquired would work out at a shilling a load. By the use of horses, he said, the corporation could save the produet of a penny rate.

Councillor Slack challenged this, and asked if Alderman Barlow seriously contended that they could save a thousand pounds a year by horse teams. He hoped, however, that the Health Committee would go into the matter.

Alderman Rowson, chairman of the Health Committee said he had been taken by surprise by the mass of figures quoted. He defended the policy of petrol traction generally, but promised to give consideration to the whole matter.

During the six months ended November 1st, twelve outbreaks of foot-and-mouth disease were confirmed. In nine cases the total stock on the farms was slaughtered, and in three cases a portion was killed.

Horse Society Meetings.

National Horse Association of Great Britain.

At a Council Meeting of the National Horse Association of Great Britain, held in London on October 21st, it was resolved to institute the award of a gold medal and illustrated certificate in all cases where great gallantry was exhibited in saving or attempting to save equine life. A special committee was appointed to design such gold medal and certificate and to consider the merits of each case of bravery reported to the Association. At the instigation of the President it was resolved to award the first Gold Medal to Miss Queenie Brown, of Tottenham, who recently rescued her pony from fire after dashing through flames into the stable.

In their report the Slippery Roads Committee recommended the following: "That in cases where limestone is used for surfacing it should be a condition of grant that an admixture of at least thirty per cent. of other approved gritting should be used (1) gravel; (2) approved granite.

The representatives of the County Surveyors' Society undertook to draft certain portions of the proposed supplementary report and the various sections now being prepared would be approved as a whole by the Committee before publication.

The report of the Publicity Committee indicated that 70,000 of the new issue of poster stamps had been sold in aid of the campaign to encourage the use of the horse, and that close on two million stamps advocating the continued use of the horse for transport had been issued for use on correspondence. Four hundred copies of Sir William Acland's article "Some Thoughts on the Horse in relation to Modern Transport Problems" had been issued, and the Association had recently issued a statistical pamphlet on horse costs which was available to all enquirers.

Applications for booklets, articles, etc., had been received from a large number of foreign countries, and the Association was also receiving a number of enquiries as to where suitable animals for export could be obtained. These were being dealt with through the aid of the affiliated Societies.

Sir Walter Gilbey, Bart. reported that the total income during the year amounted to £463, with expenditure £272, leaving a total balance of £542 on all accounts. This was very satisfactory, but he hoped that a large influx of new members would be forthcoming to enable the various schemes now mooted to encourage horses generally to be undertaken.

The Committee accepted the report of a special committee intimating that it was advisable in the interest of good shoeing that silver medals should be offered in 1930, and they decided to award at shows approved by the sub-committee a silver medal for the competitor gaining the most marks for the best-fitted shoe. Shows offering classes for farriers would be invited to apply for a medal, but with a view to making these awards of value, the sub-committee was instructed to offer not more than 20 medals, and to consider the merits of each competition, and the interest likely to be evoked. The design of a new and attractive silver medal was then approved.

The President stated that, in view of the gratifying increase of membership and interest in the Association, a special Committee had been formed to nominate a President annually, and to recommend new members of the Council, thus ensuring that all horse and pony breeds and those in any way interested in the horse, should be represented on the Council.

. . . . . .

Shire Horse Society.

At the first meeting of the Council after the usual summer recess, it was reported that, quite apart from the complete schedule and generous prizes offered at the Jubilee London Show in February last, the Society had during the past year maintained in full their comprehensive schemes at Affiliated shows, and figures to date indicated that 43 gold medals, 252 silver medals, and 60 bronze medals had been awarded with accompanying breeders' prizes amounting to £233. In addition, the Royal and Highland Shows had again been supported, so that over £1000 had been expended in this direction during the current year.

Although the Schedule for the London Show was specially increased for the Jubilee year, it was not proposed to reduce this in any way for the 1930 Show, so that £2,000 would again be offered in the seven stallion classes, seven mare classes, four gelding classes and the produce groups, while £200 would again be offered in six classes for commercial horses. A welcome addition to the prize schedule would appear in the shape of additional breeders' prizes, which the President has generously offered to provide. The 1930 Show would be held on February 25th, 26th and 27th, and the Council have invited the following gentlemen to act at the 51st Show, viz., Mr. E. A. Kirk, Mr. J. R. Jones and Mr. George Gotheridge. Mr. T. Eaton Jones was selected as Chief Veterinary Inspector and Steward of the Commercial Classes, Mr. R. H. Keene as Inspector under the Disqualification Rule, Mr. W. H. Forshaw, F.R.C.V.S., as Honorary Medical Officer, and Lieut.-Col. Percy Laurie as Judge of the Appointment Classes.

The whole of the gold, silver and bronze medal schemes in connection with affiliated shows with their accompanying breeders' prizes, were renewed for 1930, and a comprehensive panel of Shire Horse Judges was drawn up for the guidance of Societies participating in these schemes.

Reference was made to the satisfactory results of this Society's efforts in obtaining increased grants for heavy horse Societies and increased hiring and service fees, and in this connection Mr. N. W. Smith-Carington, M.P., and Mr. F. W. Griffin were thanked for their efforts, the effects of which would be beneficial not only to Shire breeders, but to all breeders of heavy horses.

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National Pony Society.

At a Council Meeting of the National Pony Society, held on October 11th, 1929, the Chairman announced that the next National Pony Show would take place on Friday and Saturday, March 7th and 8th, 1930 at the Royal Agricultural Hall, Islington.

The schedule of prizes was considered and after careful consideration it was resolved by a large majority that all one, two and three-year-old ponies in the polo young stock classes must be shown unclipped.

An additional Brood Mare Class was added to the schedule, viz.:—

> Brood Mares, suitable to breed a riding pony, four years old and upwards, entered in the National Pony Stud Book, or Approved Mare Register, with foal at foot or to foal in 1930. Prizes £10, £7 and £5.

It was agreed that Middle-weight Classes in the Polo Riding Classes should be inserted, and that instructions should be given to the judges that if they do not consider any pony in the riding classes up to the weight, they may, at their discretion, transfer any exhibit to a lower weight class.

It was resolved that the Jumping should be carried out under the Show Jumping Association's rules, and that the following class be inserted in the Schedule:—

> Open Class for Novice Jumpers, not exceeding 15hh that have never won a prize in a Jumping Competition up to the 1st January, 1930.

The other classes for Polo ponies, Children's ponies, Shetlands, Welsh and other Mountain and Moorland ponies would be similar to those at the last show.

Judges, veterinary inspectors and other officials for the show were nominated.

It was reported that during 1929 6 gold medals, 24 silver medals and 2 bronze medals had been awarded at country shows for polo ponies, and that 17 silver medals, and £65 had been awarded for the different mountain and moorland breeds. The offering of similar premiums and medals in 1930 was confirmed.

It was agreed that a special sub-committee should be established to draw up a recommended list of polo breeding

and riding judges, that such lists should be revised annually and that at shows offering the Society's medals the classes should be judged by a gentleman approved by the Society.

The Secretary was instructed to attend the Royal, Bath and West, the London Polo Clubs and other shows in 1930 where polo classes were offered, and thus keep in touch with members and breeders.

The question of the poor entry of polo-bred ponies at the London Club shows was considered, and it was stated that the Society often lost touch of polo-bred ponies directly they left the breeder and entered the game, and therefore, in the hope of encouraging the player to keep a record of his ponies' pedigrees, it was resolved to offer a sum of £20 at the Hurlingham, Ranelagh and Roehampton Pony shows for the best polo-bred pony in the riding classes.

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Hunters' Improvement and National Light Horse Breeding Society.

At the Council Meeting of the Hunters' Improvement Society, held on November 14th, Sir Henry Hoare stated that the next Hunter and Thoroughbred Show would be held at the Royal Agricultural Hall, Islington, London, on March 4th, 5th and 6th, at which The War Office would provide 15 classes for the exhibition of Thoroughbred Stallions competing for King's and Super Premiums to travel the country in 1930, and the Hunters' Improvement Society would offer 14 classes for Hunter young stock and riding horses.

The Council then proceeded to revise the schedule for 1930, and authorised the issue to members, the classes being the same as in 1929 with the exception that the four year old riding class was deleted, and a five year old riding class substitutted.

Mr. George F. Gibson, M.R.C.V.S., of Oakham, Rutland, was appointed as Chief Veterinary Inspector. The Director of Remounts stated he would again arrange for the exhibition class showing the various types of army remounts required.

The Secretary reported that during the 1929 show season, the Society had made the record total of 267 awards under the various schemes whereby Gold, Silver and Bronze Medals, Produce Premiums, and other prizes were offered at the various country shows affiliated to the Society.

Mr. E. Guy Fenwick reported that 106 mares had been put out under the Brood Mare Scheme since the commencement of the Scheme. Of these 84 are still allocated with custodians. Thirty-seven foals have been produced as a result of the service of 64 mares in 1928 and 71 mares had been served in 1929. The remainder had been acquired too late for service.

Major H. Denison-Pender reported that Vol. 12 of the Hunter Stud Book was now in the hands of the printers, and would he hoped be available at the end of the year. This book had created a record with the entry of 1,138 Hunters, as compared with 859 in the last volume, and therefore 279 in excess of all previous books. Major Denison-Pender stated that he considered this book would be invaluable to breeders of Hunters, as it would also contain a record of the service and foaling of all Thoroughbred Premium Stallions, and details of the prizes gained at affiliated shows by such foals during the last three years.

Mr. J. R. Hewer was appointed as the Society's official veterinary inspector for Wiltshire.

Association Football.

Edinburgh *versus* Glasgow.

On Wednesday, November 13th, 1929, at Spylaw Park, Edinburgh, the second of a series of matches between the Royal (Dick) Veterinary College, and the Glasgow Veterinary College took place.

Glasgow brought over a strong team in an endeavour to avenge their defeat of last season, and succeeded in the first half, by tricky football, in obtaining a clear lead of two goals.

The "Dick" men responded well after the interval and soon drew on level terms. The last half hour of the match was played at a tremendous pace, each side striving to score the leading goal. Playing good open football, the Edinburgh team finally won by three goals to two.

It was an excellent game, played with keen, friendly rivalry on both sides, and thoroughly enjoyed by all present. The Glaswegians did not deserve to lose; a draw would probably have been a fairer result.

After tea the visitors were entertained for a short time at the College before returning home. W. P. B.

From The Veterinarian, November, 1829.

Soundness in Horses.

By Mr. W. Percivall.

(Read at the Veterinary Medical Society, October 21, 1829.)

(*Continued from page* 1026.)

The first step I shall take in this interesting investigation will be to lay before you what our best authorities, legal as well as veterinary, afford on the subject; and when I have examined and discussed them, I may venture something in the shape of a definition of my own: but, in doing so, I wish to be understood to say, with Mr. Lawrence: "My object is not" (according to the common phrase) "to lay down the law: such an undertaking would be incompatible with my pursuits, and above my ability. I wish clearly to confine myself to an explanation of the causes of unsoundness," in order (I would add) to endeavour to elicit from them some rules or principles for our guidance, "leaving it to to the courts to argue and decide thereon."

The late Lord Mansfield pronounced, from the bench, that price constituted warrantry; and that every horse sold for (I believe) £10 and upwards, should be held, by virtue of his cost, to be sound (!) and for several years "such was the law." I presume his Lordship was not much in the habit of trading in live stock. One would imagine the learned Judge drew no broad line of distinction between a rocking horse and a living horse: for a certain price the artisan is undoubtedly, virtually, and ought to be, legally, bound to make a rocking horse of substantial materials, and to move well; and here the law seems good; but his Lordship never once appears to have contemplated that the living body was "not the work of man's hands";—that it was a work which possessed within itself the power of formation, repair, and action; and that man had such limited insight into the machinery, that there was no time at which he could take upon himself to say that the works were all perfect; while but too often flaws and defects existed, which, from being out of the reach of his superficial survey, necessarily escaped his observation. I shall not offer anything further by way of refutation of a doctrine so palpably absurd and untenable; but quit it with observing, that it furnishes a remarkable example of the notorious deficiencies evinced by our most eminent lawyers when they come to practice in "horse-causes."

The subsequent exposition of the law, by Lord Ellenborough, bears, to say the least of it, the face of plausibility. It set out on the principle, that unsoundness consisted in "any infirmity which rendered the animal unfit for present use or convenience." His Lordship's words are: "To constitute unsoundness, it is not essential that the infirmity should be of a permanent nature; it is sufficient if it render the animal for the time unfit for service; as, for instance, a cough, which for the present renders it less useful, and may ultimately prove fatal. Any infirmity which renders a horse less fit for present use and convenience is an unsoundness." This, I repeat, is a specious doctrine: it is one, however, viewed in a medical light,

that is liable to heavy objections. If by "infirmity" be meant to be understood disease, then, I would ask, if there were not diseases which did not "render the animal unfit for present use or convenience?" Because, this once admitted, it follows that a diseased horse may, according to Lord Ellenborough, be regarded as a sound horse. On the other hand, if by infirmity be understood, not disease but incapacity, from any cause, then a horse enfeebled by age, condition, etc., would be unfairly pronounced unsound. In fine, according to my notions, a horse may be unsound in a variety of ways, and yet be pronounced to be "fit for present use or convenience"; or, he may be "unfit for present use or convenience," and yet be a perfectly sound horse.

The present Chief Justice, Lord Tenterden, has, in a recent case, given it as his opinion "that a horse that cannot go through the same labour as before the existence of the defect or blemish in dispute, and with the same degrees of facility and safety, is unsound." There is no nearer or surer way of coming at the truth of any proposition than to place it before us in the reverse form: Let us do this with the present one—if a horse can "go through the same labour as before," ergo, he is sound. Now, in the first place, the word "before" (referable to an antecedent—we will say, a sound state) leaves the law extremely indefinite in regard to the quantum of labour the animal could perform previously, and the degrees of safety and facility with which he could perform it; in the next place, there are diseases which do not detract from any one of these powers or capacities (mange is one,—glanders, in certain stages, another); and, in the third place, we know, as practical men, that these qualifications are as much dependent upon condition as disease; inasmuch as there are disorders horses are subject to, with which, in condition, they could do more work than they could if they were out of condition and in perfect health.

(*To be continued.*)

NOTES AND NEWS.

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events.

Nov. 25th—Meeting of the Editorial Committee, N.V.M.A., 10 Gray's Inn Square, London, W.C.1. at 4-30 p.m.

Nov. 26th—Joint Meeting of the Appointments and the Veterinary Officers' and Public Health Committees, N.V.M.A., 10 Gray's Inn Square, London, at 3 p.m.

Nov. 28th—Meeting of the Lancashire Division, N.V.M.A., at Pembroke Place, Liverpool, 2-30 p.m.

Nov. 28th—Annual Meeting of the North Wales Division, N.V.M.A., at Chester.

Nov. 29th—Meeting of the Royal Counties Division, N.V.M.A., at 10 Red Lion Square, W.C.1, 3 p.m.

Dec. 16th—Annual Dinner of the Central Division, N.V.M.A., at the Criterion Restaurant.

Royal Veterinary College Rebuilding Fund.

As a result of the Garden Fête and Bazaar held within the grounds of Captain and Mrs. Claude A. A. Ewin, at Coombe Brooke, Coombe Lane, Kingston Hill, on 6th July last, a cheque for £384 12s. 8d. has been handed over in aid of the Rebuilding Fund of the Royal Veterinary College.

The Glamorgan County Council Appointments.

Our readers will note with satisfaction that, following upon the representations made by the Association to the Glamorgan County Council that the salaries offered by that body for the posts of Assistant Veterinary Officers did not comply with the Association's scale, the salaries offered have been raised to conform to the minimum laid down by the Association.

The notice with reference to these appointments which appeared in our last week's issue is therefore withdrawn, but the appointment of Chief Veterinary Officer for Somerset remains under the Association's ban.

Death of Mr. David Rees, J.P.

We regret to record the death of one of the oldest and best known "Existing Practitioners" in Mr. David Rees, J.P., of Brynbedw, Tylorstown, aged 79, after an illness of nine weeks' duration. "Born at Llandilo," says a South Wales paper, "Mr. Rees was in the service of Messrs. D. Davis & Sons, Ferndale, as veterinary surgeon for 58 years. Prior to that he was with the firm at Aberdare where he remained for about ten years. In 1881 he proceeded to Ferndale.

"He was known over a wide area as the 'father of the Ferndale Horse Show,' and in recognition of his services to the show, he received a number of gifts a few years ago. He had acted at various times as judge at the Royal Show, the Bath and West Show, and practically every show in South Wales, being considered an authority on heavy horses. He did much to encourage the breeding of the best type of horse to meet the big demands of the colliery industry.

"He was made a magistrate in 1920. Mr. Rees is survived by a widow and two children, Mrs. W. J. Davies, of Brynbedw House, Tylorstown, and Mr. W. D. Rees, M.R.C.V.S., of Penycraig, veterinary surgeon to the Cambrian Consolidated Collieries.

"There was a representative gathering at the funeral, which took place in Penrhys cemetery, including magistrates and police and, in addition to Mr. W. D. Rees, the following members of the Royal College of Veterinary Surgeons: Capt. J. H. Stewart, Cardiff; Messrs. E. Philip Evans, Cardiff; Morgan Williams, Pentre; Robert Moore, Treorchy; and Sidney Clode, Pontypridd."

CORRESPONDENCE.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

Report of the Departmental Committee on the Reconstruction of the Royal Veterinary College.

To the Editor of The Veterinary Record.

Sir,—As I was prevented from being present at the Editorial Committee meeting when the issue of the *Veterinary Record* of November 9th was made up, may I as "a Man in the Street" congratulate you on that issue in that you were able to publish the Report of the Departmental Committee on the Reconstruction of the Royal Veterinary College, an Editorial on that Report, and Professor J. B. Buxton's excellent letter at one and the same time.

I have read and re-read all these with profound interest, and have without any hesitation come to the conclusion that Professor Buxton's scheme is the right one to adopt.

As an old student of the Royal Veterinary College at Camden Town and still retaining grateful memories for all that I am indebted to that Institution, it is hard for one to have to be forced to the conclusion that the reconstruction as suggested by the Committee's report is not for the best.

The Veterinary Profession has now reached a critical period in its history. The Council of the Royal College of Veterinary Surgeons has decided on a five years' course of study in order to obtain its diploma, and the Government of the country has at last been forced to take, or at any rate has taken, some interest in our leading teaching Institution. Are we to let slip this golden opportunity of furthering the interest and advancement of Veterinary Education, not for its immediate needs, but for all time? I am convinced that with a system of University education (not, as Professor Buxton points out, an *affiliated* University education) of five years' duration as suggested by him the profession would, without question, be immediately and for all time recognised as a learned and scientific profession both socially and educationally equal to any of the other professions—unfortunately, this cannot be claimed at the present time.

In my humble judgment this end would not be reached for generations to come if the suggested large sum of money is invested by the Government in purchasing the freehold, and the erection of buildings suitable only for the purpose for which they were designed, as naturally those who have provided the money will see to it that veterinary education remains in the place provided, and thus all hope of veterinary students pursuing their studies in an "atmosphere of learning" on an equal footing with University students will vanish.

I trust that every member of the Veterinary Profession, and those that have any interest in the profession, although they are not members, will take a very deep interest in this matter, and will not hesitate to express their views in your columns, and for that matter outside them, as by so doing the Government and the outside public will be helped in coming to a decision by opinions expressed by those not directly connected with the Royal Veterinary College but who are deeply interested in and anxious for the future welfare and status of the Veterinary Profession.

I fear that I have already trespassed too much on your valuable space, and therefore do not intend to go into the details so well covered by Professor Buxton and with whom I am in agreement. There is, however, one suggestion that has additional interest, apart from educational value; I refer to devoting the Camden Town site to the establishment of a first-class Veterinary Hospital and Clinic. We are all aware of the growth of "Animal Dispensaries" and similar organisations that are being run by unqualified persons, for the treatment of the animals of people unable to afford the fee of a veterinary surgeon. We know also the vast amount of clinical material that finds its way into these places. Here is an opportunity to divert that material and the funds supporting these institutions so that animals of the poor in London may have the benefit of the services of qualified veterinary surgeons. Thanking you in anticipation of your publishing this letter,

I am, Sir, yours faithfully, P. J. SIMPSON, F.R.C.V.S.

Shirley,
Castle Hill,
Maidenhead,
Berks.
November 15th, 1929.

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TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—In your issue of November 9th, Professor Buxton expresses disagreement with the findings of the Departmental Committee on the Reconstruction of the Royal Veterinary College. An adequate summary of his lengthy letter would be: The report is at fault in deciding that the College shall be re-built in London; the claims of Cambridge have not been adequately considered because no witness from that University was called to give evidence; the committee recommend "affiliation" of the College to the University of London, a step which will not overcome our "lack of status" as a profession, this supposed "lack of status" being due to our graduates not ranking as University men—the removal of the College to Cambridge would annul all these disabilities and, in addition, would give us the benefit of the teaching of really first-class men in subjects allied to that of veterinary science—that, dear Sir, I consider adequately summarises Professor Buxton's letter, except that it gives no reflection of the unfortunate tone which permeates the original.

Now, although the Committee use the word "affiliation" as a heading to one of their paragraphs, yet in the context it repeatedly states that the College should become "*a School of the University.*" As is well known to people versed in the constitution of the University of London, there is a great difference between an affiliated College and a school of the University. In the latter instance, the R.V.C. will rank along with such Colleges as the London School of Economics, Birkbeck College, East London College, the London School of Hygiene and Tropical Medicine, etc., and it would probably be re-named The Veterinary College, University of London. Then, *all* members of its staff must be of sufficient standing to be recognised as teachers of the University. Further, all its students will be "at London University" whether they take a degree or not, and hence those weaklings who continue to harbour the "inferiority complex" of our profession can as readily lose it by this means as by going to Cambridge. Would Professor Buxton suggest that no man is of University standing unless he has been to Oxford or Cambridge, or that no "desirable persons" go elsewhere?

That the Committee did consider the claims of Cambridge must be evident from the fact that such men as Sir Charles Martin and Sir Walter Fletcher were members and this deduction is strengthened by the Report's definite mention of the College's previous decision not to remove to Cambridge some years ago; in fact, this decision is not only referred to but is actually strongly upheld.

It is incorrect to suggest that students other than Cambridge graduates cannot take the research degrees at that University. At the present time at least 75 per cent. of the research students at Cambridge are from other Universities,* and, I believe, that already some of our own graduates are studying for the Cambridge Ph.D., but it must be remembered that London offers equal facilities for post-graduate courses and research; especially is this so in Bacteriology and Immunology and in Tropical Medicine.

But perhaps we are unfair in agreeing with the Committee's findings and in considering that it has thoroughly examined its problems before arriving at the conclusions embodied in the Report, for the Committee, like us, has not yet had the benefit of examining "the scheme" Professor Buxton "has in mind," in order to overcome the objections, on clinical grounds, to Cambridge.

As to the "possibility" that money "would be forthcoming from sources other than those which the Committee had in mind," it is probably just as possible that this hidden source might be persuaded, in view of the Report, to give its aid to a College in London.

There appears to be a tendency to imagine that because all has not been well at the London College for some time past, then it must for ever remain so. Let us fully realise that if the Committee's findings are carried out, both

*[*Observer* readers were informed by the Cambridge Correspondent of that paper on Sunday last, that "The annual report of the Board of Research Studies tells us that there were 308 Research Students in residence last year. Of these, 122 had already got a Cambridge degree, and of the total number all but 38 came either from British or Dominion Universities or from India; further, of these 38, 29 came from the United States, one from China, two from Japan, while two students from Zürich and one each from Würzburg, Budapest, and Leningrad are the only representatives from the whole of Europe." The figures here given work out at approximately 60%, and not 75%, of Research Students at Cambridge who possess other degrees than Cambridge degrees.—Ed.]

buildings and departments will be ruthlessly re-organised upon a proper scientific and University basis. It seems to me an unpardonable mistake to fly in the teeth of the recommendations of the first Government Committee that has whole-heartedly proposed the complete re-organisation of the Royal Veterinary College in no niggardly way. Let us show that, as a profession, although long neglected, we are nevertheless not unable to appreciate the somewhat belated efforts of a Government Committee to help to put right our past wrongs and to raise our oldest College to undoubted equality with other University Colleges. At the same time, let us hope that our future students will enter more and more into the corporate life of the University as a whole and so overcome that tendency to isolation referred to by Professor Buxton. It is to be hoped that as the College cannot acquire a place on the Bloomsbury site, at least a strong effort will be made to found a College Hostel in that area. For the time being, however, let us remember "*Vis unita fortior.*"

ARTHUR R. SMYTHE.

Falmouth.
November 15th, 1929.

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TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—The Report of the Committee on the Reconstruction of the Royal Veterinary College has already received comment, but it seems to me that one side of the question has not had due attention. When entering the college a student needs to become conversant both with the theory and the practice of the veterinary profession, and I submit that the former can be well acquired in a town, and as much of the latter as respite from studies allows. At Camden Town there is quite enough horse practice and, in addition, by the courtesy of the veterinary officer to an adjoining railway, first-year students (whom it mostly concerns) have the entree to one of the largest horse studs in London. A good part of the year is devoted to vacations, part of which can be profitably spent in the out-patient's clinic for the smaller animals, and further, during term time one can visit the large abattoirs of the Corporation of London. In London one is in contact with many of the scientific institutions, so that during the past twelve months outside the curriculum one has profited by lectures on subjects as diverse as distemper and the processes in meat refrigeration.

I do not wish to bring in contentious matter, but a system of compulsory pupilage during the holidays would be a most excellent innovation, as the time spent with a busy practitioner links up theory and practice.

It is true that the neighbourhood of Camden Town does not compete with either of the older universities from the point of view of natural surroundings, but students are mostly young and active and the great railway termini are conveniently situated.

One might add that the architects employed on the new schemes might be trusted to do their job, as they have seen new veterinary colleges on the Continent, which are often placed in urban surroundings.

I am, yours faithfully, G. A. TOMLIN, Student, R.V.C.
November 18th, 1929.

Animal Diseases Research Association.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—Mr. Wallace's letter of 9th October makes it quite clear that what has been in contemplation is a veterinarian as "Director of the Moredun Institute" and a medical man as "Director of Research to the A.D.R.A." The former would be a kind of laboratory manager and the latter would "hold the threads of the various detailed branches of research work in his hands."

It is probably unlikely that this scheme will be proceeded with in view of all that has transpired, but I think it only fair to intending candidates for the post of Director of Research to point out the position they will find themselves in when appointed unless radical changes are made in the organisation of the A.D.R.A.

When that Association was founded the Development Commissioners laid it down as a condition of their grant that there be a Scientific Advisory Committee of whom a certain number were to be "qualified in research." It seems improbable that the Development Commissioners ever contemplated such a committee without any veterinary research member upon it, and on which the only members qualified in research would be medical men, as is the position now.

When I was in charge of the research work the Committee's position was purely advisory, though there was little enough opportunity for acting in that capacity when the members did not know the A B C of the work in hand. The Committee was then subordinate to the Directors of the Association.

Now, however, the position is changed. Shortly after my resignation an acute difference of opinion arose as between the Advisory Committee and the Directors, a decision of the Committee being turned down by the Directors. The Committee appealed to the Scottish Board of Agriculture, which made the fatal mistake of upholding the Committee against the Directors, terms of settlement being imposed upon the Directors which left the Advisory Committee masters of the Association, the Directors being mere figureheads. Our research workers now find themselves controlled by a Committee without a veterinary research worker upon it, and moreover a Committee dominated by medical men. It is small wonder that when Mr. Pool resigned the next step was to propose a medical man "to hold the different threads" of the research work. One might be forgiven for looking a little ahead to see young medical men at work at Moredun recording blood pressures in sheep, pigs and poultry and such-like research work and a complete absence of veterinary research workers.

In my opinion, there is only one solution to the highly unsatisfactory situation. Either the Scientific Advisory Committee should be abolished or the majority of its members should be veterinary scientists. I think this matter should be taken up by the N.V.M.A. with the Scottish Department of Agriculture and the Development Commissioners.

If veterinary scientists offer their services to the A.D.R.A. in any capacity as matters stand, they will soon find they have good cause to regret it. The new Director of Research should be a veterinarian and have full powers to initiate, direct, and control the research work; the functions of any Advisory Committee should be purely advisory.

Yours faithfully, S. H. GAIGER.

University of Liverpool,
18th November, 1929.

Uterine Torsion in the Cow.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—I was very interested in the discussion on Mr. T. J. Lewis' remarks on this subject. My chief interest was centred on the remarks *re* "rolling."

I have met with several cases of torsion, and have been successful in delivery in every case but one. I have never found it necessary to roll a cow. My method is to manipulate with plenty of lard, for anything up to half hour, a sufficient period in most cases. If I can get a leg or jaw I apply gentle traction. Although for a time it may appear that I am making no progress, I find that more or less suddenly the muscles "give way," and I can then proceed. The method is worth a trial by those who previously have rolled the cow.

The case in which I failed was one where the torsion was complete and there were strong adhesions of the womb to the abdominal wall and bowels.

Yours faithfully, T. J. MARGARSON, M.R.C.V.S.

Camden House,
London Road,
Stroud, Glos.
Nov. 17th, 1929.

The Editor acknowledges the receipt of the following:—
Communications from Mr. G. B. Brook (Abingdon) and Major Brennan De Vine (Birmingham).